

Changkat Changi Secondary School
Physics Department
Upper Secondary

Name: _____ () Class: _____ Date: _____

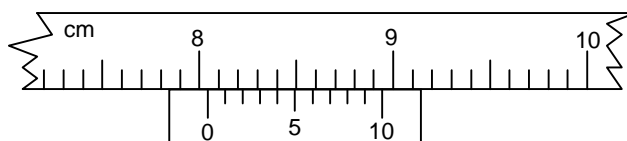
TOPIC: Measurement

WORKSHEET 1.2

A. MULTIPLE CHOICE QUESTIONS (7 Marks)

13

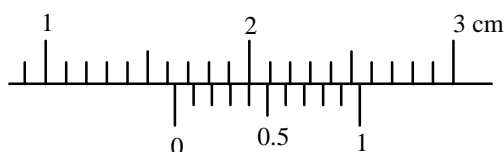
1. The diagram shows the vernier scale reading of a short metal rod. Assuming no zero error, what is the length of the rod?



- A** 8.04 cm **B** 8.14 cm **C** 8.13 cm **D** 8.15 cm

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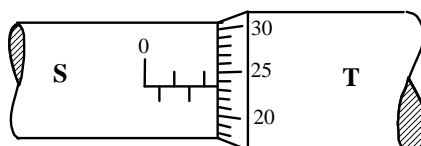
2. A student used a vernier caliper to measure the diameter of a wooden cylinder. The diagram shows an enlargement of the caliper scales. What reading was recorded?



- A** 2.40 cm **B** 1.64 cm **C** 0.62 cm **D** 0.42 cm

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3. The diagram shows the barrel (S) and the rotating thimble (T) of a micrometer screw gauge.

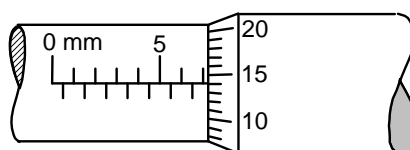


The reading shown above is

- A** 2.20 mm **B** 2.23 mm **C** 2.25 mm **D** 2.28 mm

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4. The diagram shows a micrometer. What is the reading shown?



- A** 5.74 mm **B** 6.14 mm **C** 6.74 mm **D** 7.14 mm

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5. The diagram in Fig. 1.1 and Fig. 1.2 below show the scale of a pair of vernier calipers. Fig. 1.1 shows the a zero error reading when the jaws are closed. Fig. 1.2 shows the reading of the length of an object. What is the actual length of the object?

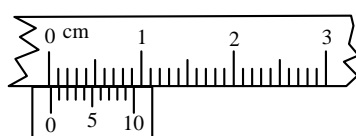


Fig. 1.1

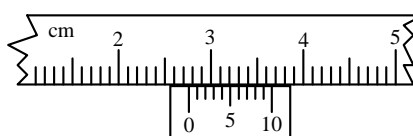


Fig. 1.2

- A 2.56 cm B 2.54 cm C 2.76 cm D 2.74 cm

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6. Diagrams show readings of a micrometer screw gauge. Fig.(i) shows the zero error reading when the screw gauge is closed, Fig.(ii) the reading when the screw gauge is being used to measure the diameter of a ball-bearing.

What is the diameter of the ball-bearing?

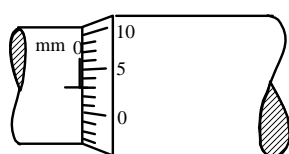


Fig. (i)

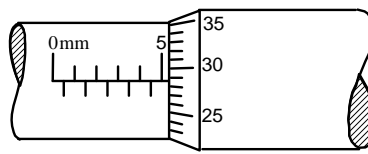


Fig. (ii)

- A 5.29 mm B 5.26 mm C 5.32 mm D 5.28 mm

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7. A length of copper pipe, of uniform cross-section and several metres long, carries water to a tap. Which instruments are used to take measurements to calculate accurately the volume of copper in the pipe ?

- A calipers and micrometer
B micrometer and rule
C rule and tape
D tape and calipers

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B. STRUCTURED QUESTIONS (6 Marks)

8. The diameter of a ball bearing was measured as accurately as possible using the following instruments: metre rule, vernier calipers and a micrometer. The table below shows the readings obtained. Complete the table to show which instrument produced each reading. [3]

Diameter	Instrument used
7.12mm	
7.0 cm	
7.1mm	

9. Give the name of the instrument most suitable for measuring
(a) the diameter of a wire, _____
(b) the volume of a small stone, _____
(c) the diameter of a soft drinks can. _____

[3]